

ABSTRACT OF THE DISCLOSURE

A method of selecting an asphalt binder for use in constructing a high modulus layer of bituminous pavement is provided. This method includes measuring the complex shear modulus of one or more binders at a temperature of not more than about 30°C, measuring the creep stiffness of one or more binders at a temperature near the lowest in-service temperature at the depth of the layer at which the bituminous pavement is being placed, and selecting an asphalt binder for the high modulus layer using the complex shear modulus and creep stiffness measurements. A further aspect of the present invention is a method of formulating an asphalt binder that has a desirable complex shear modulus and creep stiffness for use in making the high modulus layer. This method of formulation includes mixing a stiff asphalt binder and a soft asphalt binder together to form a binder having a complex shear modulus of at least about 2 MPa at 30°C and 10 rad/sec and a creep stiffness of no more than about 300 MPa when measured at a temperature of about 10°C above the lowest in-service pavement temperature at 60 seconds loading time, on RTFO-aged material.